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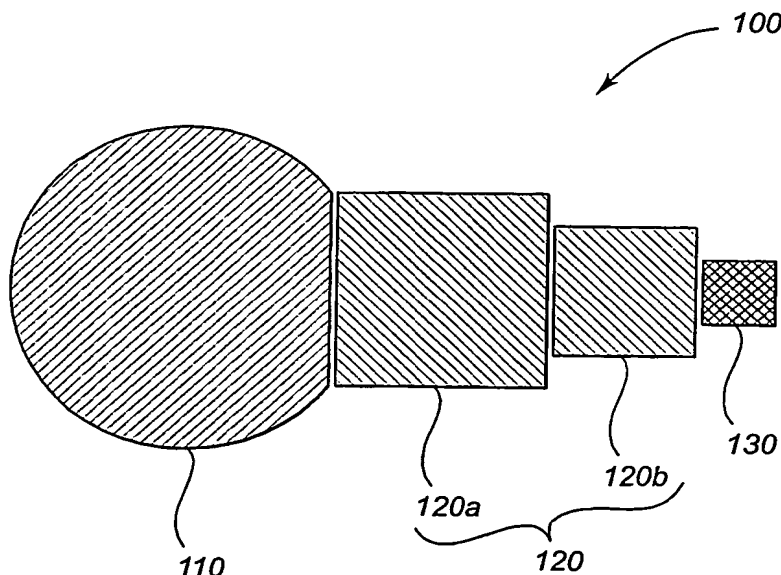
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(54) Title: ELECTROWETTING SAMPLE PRESENTATION DEVICE FOR MATRIX-ASSISTED LASER DESORPTION/ION-  
IZATION MASS SPECTROMETRY AND RELATED METHODS



(57) Abstract: Electro-wettable sample presentation devices are useful in performing analytical measurements such as the detection of analytes contained within a liquid sample drop. The device comprises a virtual microwell for receiving a liquid sample drop; one or more intermediary electro-wettable sites at least one of which is contiguous to the microwell; and a terminal electro-wettable site which confines the deposition of analytes and matrix to within a predetermined area. The microwell is either an electro-wettable zone or a chemically-modified zone, which exhibits either hydrophobic and non-adsorptive properties with respect to analytes, or hydrophobic and adsorptive properties with respect to analytes. Each of the electro-wettable sites modifies the surface of the sample presentation device between hydrophobic and hydrophilic states in response to an electrical potential

applied between a liquid sample drop and the electro-wettable site so as to direct the positioning of the liquid sample drop.